

S/N 09/941,212

Response to Office Action Dated 03/23/2006

In the Claims:

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2 1. (Currently Amended) A method of upgrading firmware on a peripheral
3 computing device comprising:

4 determining a current version of firmware installed on the peripheral
5 computing device, wherein the determining is performed by an applet running on
6 the peripheral computing device;

7 searching a pre-designated location for a firmware upgrade, wherein the
8 searching is performed by an embedded browser configured to operate without
9 user intervention within the peripheral computing device according to a
10 prescheduled time period, and wherein operation of the browser is initiated and
11 directed by the applet running on the peripheral computing device;

12 sending an email notification from the peripheral computing device to one
13 or more pre-designated email addresses if the firmware upgrade is found, wherein
14 the email notification is sent by the applet running on the peripheral computing
15 device; and

16 receiving the email notification on a host computer remote from the
17 peripheral computing device, wherein the email notification is rendered for
18 reading by a user logged into the host computer, and wherein the email provides
19 an option of installing the firmware upgrade, an option for a selected time period
20 of installation, and an interface allowing the user to indicate selections by mouse
21 click;
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1 downloading the firmware update, from the pre-designated location, at the
2 selected time period, to the peripheral computing device; and

3 installing the firmware upgrade onto the peripheral computing device
4 during the selected time period.

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6 2. (Original) A method as recited in claim 1, wherein the searching further
7 comprises:

8 comparing the current version of firmware with the firmware upgrade to
9 determine if the firmware upgrade will provide a more recent version of firmware.
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12 3. (Currently Amended) A method as recited in claim 1, wherein the
13 ~~searching further comprises initiating a browser application embedded on the~~
14 ~~computing device. the email notification provides a link to an e-commerce site~~
15 configured to allow the user to purchase the firmware upgrade prior to installing
16 the firmware upgrade.

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19 4. (Currently Amended) A method as recited in claim 3, wherein the
20 ~~browser application is stored on and executes on a second computing device~~
21 ~~coupled to the computing device. the peripheral computer device is a printer, and~~
22 the browser is embedded within the printer.
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1 5. (Original) A method as recited in claim 1, wherein installing the
2 firmware upgrade further comprises:

3 receiving a reply from a recipient of the email notification comprising a
4 user-designated time; and

5 at the user-designated time, downloading and installing the firmware
6 upgrade onto the computing device from the predesignated location.
7

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9 6. (Original) A method as recited in claim 1, wherein the installing the
10 firmware upgrade occurs automatically when the firmware upgrade is found.
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12 7. (Original) A method as recited in claim 1, wherein the predesignated
13 location is a plurality of predesignated locations comprising:

14 a URL address accessible via the Internet; and

15 a local server address accessible via a local network.
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18 8. (Original) A method as recited in claim 1, wherein the one or more
19 predesignated email addresses comprise a plurality of predesignated email
20 addresses.
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1 9. (Original) A method as recited in claim 1, wherein the email notification
2 comprises:

3 a selectable option configured to automatically install the firmware upgrade
4 onto the computing device; and

5 information comprising:

6 the current version of firmware;

7 the location of the firmware upgrade;

8 the cost associated with the firmware upgrade; and

9 billing data required to complete an electronic commerce transaction
10 to purchase the firmware upgrade.
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13 10. (Currently Amended) A method as recited in claim 1, wherein the
14 peripheral computing device is embodied as a device selected from a group of
15 devices comprising:

16 a printer;

17 a scanner;

18 a copier;

19 a facsimile machine;

20 a multifunction peripheral device;

21 a modem;

22 a cellular telephone;

23 a personal computer; and
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a personal digital assistant (PDA).

11. (Original) A method as recited in claim 1, wherein the firmware is device driver software and the firmware upgrade is a device driver upgrade.

12. (Original) A computer-readable medium comprising computer executable instructions configured to cause a computer to perform the method of claim 1.

13. (Original) A computer-readable medium as recited in claim 12, wherein the computer executable instructions are further configured to cause a computer to perform the method of claim 1 automatically on a periodic basis.

14. (Original) A computer-readable medium as recited in claim 12, wherein the computer executable instructions are further configured to cause a computer to perform the method of claim 1 at the request of a user.

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1 15. (Currently Amended) A computer implemented method of upgrading
2 firmware on a ~~computing peripheral device~~ device, comprising:

3 predesignating a server location to be searched for a firmware upgrade;

4 determining a current version of firmware installed on the peripheral
5 device, wherein the determining is performed by an applet running on the
6 peripheral device;

7 searching the pre-designated server for the firmware upgrade, wherein the
8 searching is performed by an embedded browser configured to operate without
9 user intervention, and wherein operation of the browser is initiated and directed by
10 the applet running on the peripheral device;

11 predesignating an email address to which an email notification will be sent
12 when the firmware upgrade is found, wherein the email address for receiving the
13 email notification is accessible from a computing device remote from the
14 peripheral device;

15 sending an email notification from the peripheral device to the pre-
16 designated email address if the firmware upgrade is found, wherein the email
17 notification is sent by the applet running on the peripheral device;

18 receiving [[an]]the email notification at the email address, wherein the
19 email notification is rendered for reading by a user logged into the computing
20 device remote from the peripheral device, and the email notification comprising
21 comprises a selectable option configured to automatically install the firmware
22 upgrade on the computing device ~~from the server location,~~ and an option for a
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1 selected time period of installation, and an interface allowing the user to indicate
2 selections by mouse click;

3 downloading the firmware update, from the pre-designated location, at the
4 selected time period, to the peripheral computing device; and

5 installing the firmware upgrade onto the peripheral device during the
6 selected time period.

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8 16. (Original) A method as recited in claim 15, further comprising:
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10 in response to a selection of the selectable option, requesting a time at
11 which the firmware upgrade will be automatically installed.

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13 17. (Original) A method as recited in claim 15, further comprising:
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15 in response to a selection of the selectable option, requesting billing data
16 required to complete an electronic commerce transaction to purchase the firmware
17 upgrade.

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1 18. (Currently Amended) A method as recited in claim 15, wherein the
2 predesignating a server location comprises:

3 configuring an applet on the computing device with an address location
4 [[on]]of the server.
5

6 19. (Cancelled)
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8 20. (Original) A method as recited in claim 15, wherein the firmware is
9 device driver software and the firmware upgrade is a device driver upgrade.
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11 21. (Currently Amended) A peripheral computing device comprising:
12 firmware stored in nonvolatile memory on the peripheral computing device;
13 and
14 an upgrade applet, operable on the peripheral device and configured to
15 update the firmware on the peripheral device, by: determine the current version of
16 the firmware, search a pre-designated location for a firmware upgrade, send an
17 email notification regarding an available firmware upgrade, and install the
18 available firmware upgrade in the nonvolatile memory.
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20 determining a current version of the firmware;
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22 searching a pre-designated location for a firmware upgrade, wherein
23 the searching is performed by an embedded browser configured to operate without
24 user intervention within the computing device according to a prescheduled time
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1 period, and wherein operation of the browser is initiated and directed by the
2 applet;

3 sending an email notification from the upgrade applet to one or more
4 pre-designated email addresses if the firmware upgrade is found, wherein the
5 email notification is sent by, and the one of the one or more pre-designated email
6 addresses is stored on, the applet running on the computing device, wherein the
7 email notification is configured to be received on a host computer remote from the
8 peripheral computing device, wherein the email notification is suitable for
9 rendering for reading by a user logged into the host computer, and wherein the
10 email notification provides the option of installing the firmware upgrade, an option
11 for a selected time period of installation, and an interface allowing the user to
12 indicate selections by mouse click;

14 downloading the firmware update, from the pre-designated location,
15 at the selected time period, to the peripheral computing device; and

17 installing the firmware upgrade onto the peripheral computing
18 device during the selected time period.

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1 22. (Currently Amended) A peripheral computing device as recited in
2 claim 21, wherein the email notification comprises:

3 a selectable option to have the available firmware upgrade installed at a
4 user-designated time; and

5 information comprising:

6 the current version of the firmware; and

7 the location of the available firmware upgrade.
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10 23. (Currently Amended) A peripheral computing device as recited in
11 claim 22, wherein the email notification further comprises:

12 information comprising:

13 a cost associated with the available firmware upgrade; and

14 billing data required to complete an electronic commerce transaction
15 to purchase the available firmware upgrade;

16 and wherein the selectable option comprises:

17 a second applet configured to browse to the predesignated location
18 and install the available firmware upgrade upon completion of the electronic
19 commerce transaction.
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1 **24.** (Currently Amended) A peripheral computing device as recited in
2 claim 21 embodied as a device selected from a group of devices comprising:

3 a printer;
4 a scanner;
5 a copier;
6 a facsimile machine;
7 a multifunction peripheral device;
8 a modem;
9 a cellular telephone;
10 a personal computer; and
11 a personal digital assistant (PDA).
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14 **25.** (Currently Amended) A peripheral computing device as recited in
15 claim 21, wherein the nonvolatile memory comprises electrically erasable
16 programmable read-only memory (EEPROM).
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26. (Currently Amended) A system for upgrading firmware comprising:

a computing device;

a peripheral device, in communication with the computing device; and

a computing device having an upgrade applet configured to locate a
firmware upgrade and send an email notification regarding the firmware upgrade;
and for operation on the peripheral device, wherein the upgrade applet is
configured for:

an email recipient configured to reply to the email notification, the reply
comprising a user designated time at which the upgrade applet will install the
firmware upgrade onto the computing device.

determining a current version of firmware installed on the peripheral
device, wherein the determining is performed by the upgrade applet running on the
peripheral device;

searching a pre-designated location for a firmware upgrade, wherein
the searching is performed by an embedded browser configured to operate without
user intervention within the peripheral device according to a prescheduled time
period, and wherein operation of the browser is initiated and directed by the
applet;

sending an email notification from the peripheral device to one or
more pre-designated email addresses if the firmware upgrade is found, wherein the
email notification is sent by, and the one of the one or more pre-designated email
addresses is stored on, the applet running on the peripheral device;

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1 receiving the email notification on the computing device, wherein
2 the email notification is rendered for reading by a user logged into the computing
3 device, and wherein the email provides the option of installing the firmware
4 upgrade, an option for a selected time period of installation, and an interface
5 allowing the user to indicate selections by mouse click;

6 downloading the firmware update, from the pre-designated location,
7 at the selected time period, to the peripheral device; and

8 installing the firmware upgrade onto the peripheral device during the
9 selected time period.
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